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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/799,560	03/11/2004	Keith L. Berrier	BERR1100-1	7773

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EXAMINER	
PATTON, AMANDA K	

ART UNIT	PAPER NUMBER
3762	

MAIL DATE	DELIVERY MODE
03/19/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/799,560	BERRIER, KEITH L.	
	Examiner	Art Unit	
	Amanda Patton	3762	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 February 2008*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-9,11-19,21 and 22* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-9,11-19,21 and 22* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Response to Amendment

Applicant's response dated February 14, 2008, is acknowledged. Currently Claims 1-9, 11-19, and 21-22 are pending in this application.

Claim Objections

In response to the amendment to the claims, the objections to the claims have been withdrawn.

Response to Amendment

The declaration filed by Keith Berrier on February 14, 2008 under 37 CFR 1.131 has been considered but is ineffective to overcome the 102(a) and 103(a) references cited below.

The declaration must include an acknowledgment by the declarant that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001) and may jeopardize the validity of the application or any patent issuing thereon. The present declaration does not include this acknowledgement. See MPEP 715.04 [R-6] (II).

The declarations by Dirar S. Khoury and Danny C. Sorensen under 37 CFR 1.132 filed February 14, 2008 are insufficient to overcome the rejection of claims 1-9, 11-19, and 21-22 based upon the 102(a) and 103(a) references as cited below for the following reasons:

The declarations refer only to the system described in the above referenced application and not to the individual claims of the application. As such, the declarations do not show that the

objective evidence of nonobviousness is commensurate in scope with the claims. See MPEP 716.

Additionally, the declarations must include an acknowledgment by the declarant that willful false statements and the like are punishable by fine or imprisonment, or both (18 U.S.C. 1001) and may jeopardize the validity of the application or any patent issuing thereon. The present declarations do not include this acknowledgement. See MPEP 715.04 [R-6] (II).

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

Claims 1-3, 5, and 8-9 are rejected under 35 U.S.C. 102(a) as being anticipated by "TR02-17: CAAM Department Technical Reports 2002", December 2002 (hereinafter "TR02-17"). TR07-17 discloses a method and system for solving inverse problems in electrocardiography including receiving cavitary electrogram signals from a multielectrode probe (a first parameter), inverting the signal using a Duncan and Horn formulation of a Kalman filter, and mapping endocardial electrograms to a user (a second parameter). TR02-17 also teaches "temporal regularization" which would include multiple or a selectable number of steps in time.

Claims 1-9, 11-19, and 21-22 are rejected under 35 U.S.C. 102(a) as being anticipated by "Solving the Inverse Problem of Electrocardiography Using a Duncan and Horn Formulation of

the Kalman Filter" (hereinafter "Solving the Inverse Problem"). This document is found in the provisional application 60/454204 to which this application claims priority and contains the date 21 February 2003. Solving the Inverse Problem" substantially discloses the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 4, 6-7, 11-16, 18-19 and 21-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over TR02-17.

Regarding claims 11-14 and 18-19, TR07-17 does not expressly disclose a data processor, a data input interface coupled to the data processor, and a data output interface coupled to the data processor. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a data processor, data input, and data output, as it is well known in the art that these items are used to perform the predictable results of mathematical inversions.

Regarding claims 4 and 15, TR02-17 does not expressly disclose measuring electrocardial potentials external to the heart. It would have been obvious to one having ordinary skill in the art at the time the invention was made to measure the electrocardial potentials external to the heart, since it was well known in the art to measure electrocardial potentials anywhere a multielectrode probe could be easily placed.

Regarding claim 6 and 16, TR02-17 does not expressly disclose that the electrodes are regularly spaced. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include regularly spaced electrodes, as regularly spacing electrodes are well known in the art for providing a more uniform first parameter for providing the predictable results of data that is easier to invert.

Regarding claims 21 and 22, TR02-17 does not expressly teach providing a display with a graphical image of the mapping to a user. It would have been obvious to one having ordinary skill in the art at the time the invention was made to include a display for displaying a graphical image of the mapping, since it was well known in the art that a electrocardial potentials can be shown on a display for providing the predictable results of a visually showing how the electrocardial potentials change throughout the heart.

Claims 7 and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over TR02-17 in view of Manwaring et al. (US Patent 6,214,019). TR02-17 does not teach the use of a multi-sensor probe including elements from the group superconductive quantum interference devices, magnetometers, and electrometer amplifier based sensors. Manwaring et al. teaches the use of a magnetometer 34 for the use in a medical device (e.g. Figure 1). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include the magnetometer from Manwaring et al. in the method and device of TR02-17, since such a modification would provide the system with a magnetometer for providing the predictable results of improved collection of biological electrical potentials.

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Amanda Patton whose telephone number is (571) 270-1912. The examiner can normally be reached on Monday - Friday, 8:30am - 5:00pm, EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Angela Sykes can be reached on (571) 272-4955. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/AKP/
Examiner, Art Unit 3762

/George R Evanisko/
Primary Examiner, Art Unit 3762